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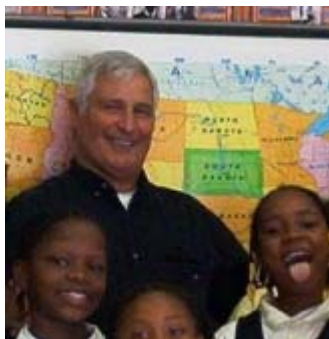
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An interview with **John Sole and David Schrader** on the Redesign of the High Schools in Philadelphia: Integrating Project Project-Based Learning and the Architectural Process January 2006

**About the interviewer:** [Jeffrey A. Lackney](#) is dedicated to blending the disciplines of architecture and education through the advocacy of collaborative design, cooperative research and design pedagogy. [School Design Research Studio](#)



In our our [first interview segment](#), we examined the work of educator, John Sole. He emphasizes an active, self-directed project-based, collaborative approach where cooperative learning strategies are favored over traditional, lecture-oriented, discipline-focused, teacher-centered instruction. John



explains that collaborative, Project-Based Learning is a pedagogy that prepares students for the real world through an active process that teaches critical thinking, problem solving, teamwork, negotiation skills, consensus building, technology, and responsibility for one's own learning.

In this second in a series on Getting REAL, we return to discuss with John Sole an unprecedented project that links education and architecture in a unique way by directly influencing the redesign of

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high schools in the School District of Philadelphia. John Sole has teamed up with educational architect David Schrader in the redesign of two urban schools with the intent of changing the way schools are planned and designed.

More often than not, participation in design, whether adult or child, has been one of manipulation and tokenism. Students rarely have a voice, either surrogate or actual, in the educational facility planning and design process. Adults rarely have the belief that children and youth have the capacity to participate and therefore knowingly or unknowingly exclude them from the process.

Yet only through direct participation, states Roger Hart, an international expert on children's participation, can children develop a genuine appreciation of democracy and a sense of their own competence and responsibility to participate. What we need are adults willing to stand up and take a chance and provide children and youth an opportunity to share what they know about their world.

Planning and design of the physical environment is an ideal way for children to not only learn about their world, but also share it with adult design professionals who make the ultimate decisions about the shape and form of the physical environment.

Post-occupancy evaluations and assessments rarely involve children and young adults. Fortunately, two adults, John Sole and David Schrader, have the courage to open up the design process—to make it REAL for students—those who are most affected by the designed environment. This interview article explores a current project that connects student learning with school design in a unique way.

**JAL:** John, you have conducted numerous student projects over the years, yet this current project is creating new territory for educators who want to connect learning directly to the real world, in this case, the design of their own school! So often we hear about projects where students were “involved”, but I am not aware of a project where students and teachers have collaborated with architects with the intent of not only learning something specific to the curriculum, but also having a real impact on the design. Could you tell us more about this interesting project? How did this project come about?

**JS:** This project is something special. Guerilla Educators has teamed with SchraderGroup Architects to connect the architectural design process directly to students and curriculum via Project Based Learning at two high schools in the School District of Philadelphia that are undergoing extensive renovations and additions.

The idea here is to embed world class teaching and learning directly into high performance school design, so that the learning begins with the inception of the design process; i.e. the “school”

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begins even as it is a developing concept and the learning which takes place via the design in turn affects the way the school is designed—a powerful closed loop.

Students will participate in 10-week project cycles that will mirror what is taking place on the design side. Project goals and activities have been determined by planning between the participating teachers and architects. Once a week during the 10-week project framework, a Community Partner from SchraderGroup will meet with participating students to accomplish the goals of that week's session. These participating design professionals include a landscape architect, interior designer, structural engineer, HVAC professionals, experts in sustainable design from the Philadelphia chapter of the USGBC, and the lead architect, Dave Schrader. All project activities will be directly connected to appropriate learning requirements and grade levels of the participating students.



As you know, Jeff, a key element of Project-Based Service Learning is the involvement of Community Partners directly participating with students in and out of classrooms. In terms of student involvement in their educational process—motivation, empowerment, problem-solving, working cooperatively in small groups, hypothesizing and critical thinking (in short, many of the attributes of effective

learning)—it is my experience that architecture projects are a gold standard of the Project-Based pedagogical model. I have known Dave Schrader for about 5 years when he was an architectural volunteer in the Philadelphia chapter of the American Institute of Architects, Architecture in Education program. Over the years, Dave has given freely of his time to hundreds of students in inner city Philadelphia.

**JAL:** How did you come to team with educational architect David Schrader?

**JS:** I came to know about and appreciate Dave's volunteer work in District classrooms when I was the Service Learning Specialist for the School District of Philadelphia between 1998 and 2002. We have been collaborating together for the benefit of students ever since. Schrader is relied on as the "go-to architect" when a Community Partner is needed who is particularly effective in helping students see how exciting and "real" learning can be, often for the first time in their school career.

Dave Schrader understands the power of authentic student involvement in designing better schools. To this end, in April and July, 2004, Dave asked me to be part of his design presentation team to the School District of Philadelphia in his successful bid to do complete re-designs and additions at two District High Schools. Because of the intrinsic power of the positive effects of architecture projects on students, both academically and as vehicles to develop outstanding citizenship skills, and because Dave is genuinely enjoyable to work with, we are moving forward in this exciting initiative.

**JAL:** David, what you and John are doing here by connecting learning, curriculum, and design pedagogy within the context of a REAL project is unprecedented. What were the circumstances that

led you to hire an educator to assist in designing a school building?

**DS:** Schrader Group Architecture (SGA) happened to be on the pre-selected shortlist for the George Washington Carver High School of Engineering and Science and later for Lankenau High School. We were one of a group of firms asked to provide proposals and consequently were selected to be interviewed. During our pre-interview decision-making process, it occurred to me that this project might be the perfect merge of many of the things we had been attempting to do over the years. What could be better than designing additions and renovations for a building that houses an Engineering and Science magnet school? It made sense to focus our project approach around the following:

- Sustainable design
- Dynamic Planning Process (Design Charrette Process)
- Contemporary design techniques
- Development of the building as a teaching tool (important for day-to-day introduction of building systems to Engineering and Science students)
- Architecture-In-Education (A-I-E) – opening the classroom up to the design process and opening the design process up to the classroom

John had invited me to participate in A-I-E programs on numerous occasions over the years. So, after having formulated the approach described above, we contacted John to see if he would be interested in being part of the team in charge of orchestrating the A-I-E portion. Luckily our design team was awarded the projects.

**JAL:** Luck, possibly, yet clearly the Philadelphia school district could see the power of your proposed process. Could you tell us more about how you structured your work around the architectural design process? What methods are you developing to get students and teachers involved in the design of their own school? Could you describe how you have restructured the design process to accommodate an educational component?

**JS:** From the designer's standpoint we (members of our firm and in our previous firm affiliations) have always attempted to include students in the process, but in many cases it was the "adult's" project (based on the client's preference). The result is that students were often peripherally involved, rather than the focus of the actual design process. Having been involved in both A-I-E programs as well as many educational design projects, I found that the knitting together of the two seems so natural. The design of a building around students is an excellent means to deliver real world education and experience to the students.

In order to best combine these experiences with an educational curriculum we developed the following concept:

**Stage 1 DESIGN CHARRETTE:** (occurred in September 2005)

Throughout the summer and fall preceding the actual Design Charrette process we had a series of events for all the students who eventually participated in the charrette. These events included:

- Bus tours of facilities throughout the state with guided tours of unique educational facilities
- Project Touchstone Development meeting with the entire group to determine what each participant wanted to achieve with this project
- Goal-Setting meetings with the entire group to educate them in sustainable design, educational design and basic building systems. The intent of this evening was to get all participants on the same page relative to their understanding of buildings and process.

First we fully immerse the students in the five-day design charrette process. In many ways we were asking the students to lead the processes. Our charrette process was developed in concert with Delaware Valley Green Building Council (special kudos go to Jennifer Rezeli and Sandy Wiggins). It was structured so that consecutive events were the result of previous educational sessions or previous design attempts. So, the process built upon itself and layered in all of the systems and green concepts. Given that approach, students began to understand that the design of a building parallels the structure of the human body and that the more efficient the building design, the more in parallel it is to the workings of the human machine and to its relative self-sufficiency (the ultimate goals of LEED and green). Ultimately, many of the students were able to make the connections between their basic educational curriculum and the many systems and concepts that they worked on for a week. More importantly, the students' shyness disappeared and they began to recognize the importance of their ideas to the "adults" around them. It was truly a fantastic process and a very mutual respect developed between all participants.



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